



U.S. Department  
of Transportation

**Federal Aviation  
Administration**

# Memorandum

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Subject:	Action: Review and Concurrence, Equivalent Level of Safety Finding for the Embraer Model ERJ-170 FAA Project Number TC0056IB-T	Date:	August 29, 2003
		Reg Ref:	§25.783
From:	Manager, TSS Airframe/Cabin Safety Branch, ANM-115	Reply to Attn of:	Jayson Claar ANM-115
To:	Manager, International Branch, ANM-116	ELOS Memo#:	TC0056IB-T-A-6

## Background

Embraer proposed to comply with the draft Notice of Proposed Rulemaking (NPRM) dated 01 February 2000, and the corresponding interpretative material provided in FAA draft Advisory Circular AC 25.783-1A, in lieu of the existing § 25.783 Amendment 25-88. The draft NPRM dated 01 February 2000, was submitted by the Aviation Rulemaking Advisory Committee (ARAC) to the FAA for consideration, and it was subsequently published with minor changes in the Federal Register on January 14, 2003, as NPRM 03-01. The NPRM 03-01 and Draft Advisory Circular AC 25.783-1A (which has not yet been formally published by the FAA) are both based on the FAA/JAA harmonized recommendation received by the FAA from ARAC. There are only minor wording changes between the Notice of Proposed Rulemaking (NPRM) dated 01 February 2000, and the NPRM 03-01. These changes only add clarification and do not affect the intent of the proposed rule change. There are no differences between the draft AC that was submitted by ARAC and the draft AC that is proposed by Embraer for application to the ERJ-170 program.

Because of several major accidents associated with fuselage doors opening during flight, the Air Transport Association of America (ATA) formed an industry group to review the design and operation of doors on then-current transport airplanes, and to review relevant regulations and advisory material for the purpose of developing recommendations to the FAA for necessary rule changes. In addition, as a result of the investigations of these accidents, the National Transportation Safety Board (NTSB) issued a series of Safety Recommendations relating to the design, operation and design standards for doors on transport category airplanes. The NPRM 03-01 is the result of this activity and is expected to provide an increase in the level of safety afforded by the present rules.

The NPRM 03-01 relocates some requirements that are currently located in § 25.783, Amendment 25-88, into §§ 25.807, 25.809, and 25.810. Also, the NPRM creates § 25.820 "Lavatory doors" based on requirements relocated from the existing § 25.783, Amendment 25-

88. While the NPRM deals with several rules relating to doors, this equivalent level of safety finding is limited to § 25.783 only.

**Applicable regulation(s)**

§ 25.783

**Regulation(s) requiring an ELOS**

§ 25.783

**Description of compensating design features or alternative standards that allow the granting of the ELOS (including design changes, limitations or equipment need for equivalency)**

The draft Notice of Proposed Rulemaking (NPRM) dated 01 February 2000, provides alternative standards to the existing § 25.783 by the following means:

- Clarification of the existing design requirements for doors.
- Definitive criteria for the door design requirements that are covered in the existing rules by general text (clarification and application).
- Additional fail-safe requirements based upon the recommendations of the NTSB and the ATA, and on current industry practice.
- Additional detail door design requirements based upon the recommendations of the NTSB and the ATA, and on current industry practice.

**Explanation of how design features or alternative standards provide an equivalent level of safety to the level of safety intended by the regulation**

The draft Notice of Proposed Rulemaking (NPRM) dated 01 February 2000, adds additional detail door design requirements and fail-safe requirements to the existing § 25.783. As such, compliance with the draft rule will provide an equivalent or higher level of safety when compared with the minimum standards of the current rule.

**FAA approval and documentation of the ELOS**

The FAA has approved the aforementioned Equivalent Level of Safety Finding as documented in Issue Paper A-6. This memorandum provides standardized documentation of the ELOS that is non-proprietary and can be made available to the public. The Transport Directorate has assigned a unique ELOS Memorandum number (see front page) to facilitate archiving and retrieval of this ELOS. This ELOS Memorandum number should be listed in the Type Certificate Data Sheet under the Certification Basis section. [E.g. Equivalent Safety Findings have been made for the following regulation(s):

§ 25.783 Doors (documented in TAD ELOS Memo TC00561B-T-A-6)]

*original signed by Alan Sinclair for*  
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Manager, TSS, Airframe/Cabin Safety Branch,  
ANM-115

*8/29/03*  
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Date

ELOS Originated by: Standards Staff, Airframe Branch	Project Engineer Jayson Claar	Routing Symbol ANM-115
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